



SYBILL, INC. INSPECTION NOTES

Facility Name and Location

Sybill, Inc., d/b/a SRS Environmental
111 Military Avenue
Detroit, MI 48209

EPA ID Number

MIR 000 022 400

Dates of Inspection

March 27-28, 2000

Facility Description

Sybill is a used oil processor and marketer located at 111 Military Avenue in an economically depressed residential/commercial/industrial section of the Delray community in southwest Detroit, at coordinates 42.2981 N latitude and 83.1797 W longitude. Sybill began operations at its Military Avenue facility ("the facility") in 1992. The company president and CEO is Vasilios C. Madias. Sybill employs 12 at this location, and operates 7 days per week, 24 hours per day. Primary operations occur during shift no. 1. The facility receives a wide range of non-hazardous wastewater and used oil streams, including spent coolants and oils, landfill leachates, underground storage tank rinse waters, sludge, excavation waters and industrial waste liquids. Inbound shipments are generally received via tanker, in quantities ranging from several hundred gallons to 12,000 gallons. Oil content varies considerably, ranging from roughly 2% to about 95%. Throughput is approximately 100,000 to 150,000 gallons per day. Maximum capacity is 450,000 gallons over a 24-hour period. Sybill operates under SIC code 4953, "refuse systems."

Used oil processing includes the separation of marketable oils from oil-water mixtures. These wastes include spent coolants and oils, and industrial waste liquids. Sybill also receives and treats wastewaters that are contaminated with small amounts of oils. These wastes include underground storage tank rinse waters, landfill leachates and excavation waters. The treated wastewater is then disposed of in the sanitary sewer. The facility was originally part of the former Fisher Body Plant waste water treatment facility that operated here prior to its closing in 1991, but was substantially modified. The outdoor tanks were part of the former General Motors facility. Sybill installed the indoor tanks.

Multi-media Inspection

Sybill was notified in advance, by letter dated March 21, 2000, of U.S. EPA's intent to conduct a multimedia compliance investigation, consisting of a facility inspection and records review, at the Sybill facility beginning on March 27, 2000. Enclosed with its March 21, 2000 letter, U.S. EPA provided Sybill with a fact sheet which offers small businesses such as Sybill links to compliance assistance tools, pursuant to the Small Business Regulatory Enforcement and Fairness Act (SBREFA).

The multimedia facility inspection was conducted by personnel from the Region 5 Waste, Pesticides and Toxics Division and Air and Radiation Division, along with personnel from the Michigan Department of Environmental Quality, Wayne County Department of Environment - Air Quality Management Division, City of Detroit Water & Sewerage Department and City of Detroit Department of Environmental Affairs Administration.

The multimedia investigation team arrived at the site shortly after 1:00 pm, EDT, on Monday, March 27, 2000. Upon arrival and after meeting with Gary Berndt, Sybill's Compliance Manager, and George Haratsaris, U.S. EPA personnel consisting of Sue Brauer, Jeffrey Gahris and Michael Valentino presented credentials. Region 5 inspectors were met by Rosam George, Tahseen Ansari and Issa Halaseh of the City of Detroit Water & Sewerage Department, inspectors Steve Walters, Joseph Goeddeke and Victor Vecsernyes of the Wayne County Department of Environment - Air Quality Management Division, RCRA Environmental Quality Analyst Jeanette Noechel of the Michigan Department of Environmental Quality, and Environmental Specialists Carol Sangster and Sidney High of the City of Detroit Department of Environmental Affairs.

The inspection was initially delayed as Mr. Haratsaris objected to the presence of Wayne Co. inspector Vecsernyes. Mr. Haratsaris refused access to the process areas to Mr. Vecsernyes. So as to get the inspection started, Wayne Co. decided to conduct the inspection with two inspectors, and Mr. Vecsernyes left the facility. At 2:00 pm EST Mr. Haratsaris gave the inspection team a brief process overview. Mr. Haratsaris presented the inspection team with a process flow diagram and plant layout drawing. Shortly thereafter, the inspection team, led by Messrs. Haratsaris and Berndt were given a tour of the facility.

The inspection began outside, to the north of the process building, where there are four unloading bays. Here, incoming tanker trucks are unloaded via quick disconnect hoses. During the inspection, the team saw one tanker truck in one of the unloading bays. Adjacent to the building is Tank 19, which was to be an oily water processing tank, but presently in not in use. At the unloading area, the team observed two 55-gallon drums which Mr. Haratsaris said contained activated carbon. From the unloading bays, we proceeded to enter the processing building.

Inside the processing building are a number of tanks — horizontal, which are dedicated to processing inbound streams and vertical, which are used for storage of inbound streams or processed oils. Inbound materials enter Tanks 9 and 14 along the eastern end of the processing building. These horizontal tanks are the main processing tanks, each with a capacity of 25,000 gallons. Tanks 11 and 12, each 30,000 gallon, double-walled, horizontal tanks, are used for acid

shocking and final cleaning. Some inbound streams are treated in Tanks 11 and 12 following caustic treatment in Tanks 9 and 14. Tanks 11 and 12 were replaced in 1999. A small vertical tank containing 50% sodium hydroxide (NaOH) was near Tank 14 and was tied into Tank 14. A similar tank containing sulfuric acid (H₂SO₄) was near Tank 12. Tanks 9, 11, 12 and 14 were vented to the air scrubber via 316 stainless steel piping. Tanks 15 - 17 were the primary "cookers" until 1995. These tanks now serve as holding tanks for either product or inbound materials. In the center of the processing area are two rows of 20,000 gallon vertical tanks, numbered 20 through 24 and 25 through 30. According to Mr. Haratsaris, these 11 tanks are storage tanks for incoming water and processed fluids. No chemicals are added for treatment purposes to these tanks. These tanks are not exhausted to the scrubber. The inspection team noticed oil and water collecting on the floor near Tank 12, which was found to be leaking.

The inspection next proceeded outdoors to the west side of the processing building, where we viewed the air pollution control (APC) equipment installed under a permit issued by Wayne Co. The APC train consists of a dual-stage Venturi scrubber followed by a packed tower followed by a carbon adsorption unit. After the carbon adsorption unit, air is discharged to atmosphere via the stack. An induced draft fan, with a rated capacity of 37,500 cubic feet per minute, draws air through the system. It is situated immediately downstream of the packed bed scrubber. We observed the outdoor control panel which records key system performance parameters such as scrubber liquid pH, packed tower recirculation rate, inlet and outlet pressures, and scrubber blowdown. The MMI team observed sampling ports in the stack at an elevation of 75 feet. Mr. Haratsaris said these are used to sample for particulate, H₂S and volatile organic compounds (VOCs). The activated carbon in the adsorption units is not regenerated, and so Sybill must monitor for saturation of the bed (*i.e.*, breakthrough) and replace the carbon when breakthrough occurs. Mr. Haratsaris stated that the carbon was changed three or four months prior to the MMI, and that another changeover was scheduled 1 - 2 weeks after the MMI. The team was informed by Mr. Haratsaris that analytical done on the spent carbon has indicated it is non-hazardous. The spent carbon is manifested as a non-hazardous solid waste and is sent to Woodland Meadows Landfill in Wayne, MI. Scrubber blowdown is maintained at between 8 and 10 gallons per minute, and is discharged directly to the sewer.

The inspection next proceeded to the south end of the building. We entered the area where the boiler is located. The boiler, Model No. 44-2 manufactured by Industrial Combustion, Inc., is a package unit rated at 16.8 MMBTU/hour. It fires only natural gas, and is not operated as a BIF under RCRA. The inspection team observed a small Vesco parts cleaner in a maintenance area in this section of the processing building. The parts cleaner sat atop a 55-gallon drum. Sybill indicated the cleaning fluid was naphtha or mineral spirits.

The inspection team next proceeded to the north end of the processing building. Here, a scale pit — of roughly dimensions 60 ft x 10 ft — was observed to be nearly full. A Sybill employee removed a manhole cover at the team's request, and the team was able to observe that the pit was very nearly full to capacity (roughly 1000 gallons, according to Sybill) with an oily material. The MMI team was told that the pit is evacuated each day and the contents are pumped into a truck.

The walk-through proceeded to the large outdoor tanks — Nos. 3, 4 and 5, located immediately east of the processing building. The large tanks are fully enclosed by a concrete containment wall. Tanks 3 and 5 are clarifiers; Tank 4 is a buffer tank for inbound materials. Tanks 3 and 4 have a capacity of 360,000 gallons; Tank 5, 170,000 gallons. The inspection team walked the catwalk above these tanks. Tanks 3 and 4 were covered with sheet metal; Tank 5 was completely open to atmosphere. Tanks 3 and 4 are evacuated to the scrubber. The team did not observe any particularly strong or obnoxious odors while upon the catwalk, although this is perhaps the one area in the facility where odor concerns are greatest, particularly with Tank 5.

The inspection concluded by walking across Military Avenue to observe two large, vertical tanks, Nos. 1 and 2. These tanks each have a capacity of 250,000 gallons. Mr. Haratsaris indicated that Tank 2, which is intended to store waste oil, had not been in use for nearly two years. Tank 1, according to Mr. Haratsaris, stores only finished product. Materials are pumped to and from the tanks via tanker truck.

Upon returning to the office/lab area, several members of the team were given a brief tour of the lab. Here, Region 5 used oil expert Sue Brauer was able to direct questions to the chemist relative to analytical methods and QA/QC procedures for testing inbound shipments. Of specific concern was how Sybill tests inbound streams for total halogens.

For the balance of day one, the MMI team reviewed records and questioned Messrs. Haratsaris and Berndt. Records review and further inspections of air pollution control equipment took place on day two, March 28, 2000. Exit interviews were held with Messrs. Haratsaris and Berndt at the conclusion of day two.

Objectives

The specific objectives of the multimedia compliance investigation were to determine Sybill's compliance status with respect to the following:

- < Clean Water Act (CWA) regulations, including National Pollutant Discharge Elimination System (NPDES) permit no. 914-003 requirements and Spill Prevention Control and Countermeasure (SPCC) requirements.
- < Resource Conservation and Recovery Act (RCRA) regulations for hazardous waste management (pursuant to 40 Code of Federal Regulations Parts 262 and 265), used oil management (pursuant to 40 Code of Federal Regulations Part 279).
- < Clean Air Act (CAA) regulations, including National Emission Standards of Hazardous Air Pollutants (NESHAP), New Source Performance Standards (NSPS), State Implementation Plan (SIP) and applicable permit requirements.
- < Emergency Planning and Community Right-to-Know Act (EPCRA).

Process Information

Wastewater and waste oils — byproducts of industrial processes which render the oils unusable — are received by tanker truck. These tankers unload at the processing building through four unloading bays. From the unloading bays, inbound streams are diverted via hose connections to Tanks 9 and 14. Through indirect heating, addition of chemicals such as de-emulsifiers, separation of the water phase, solids removal and, in some cases (roughly 10% of throughput), through the addition of H_2SO_4 , the facility is able to produce oil for resale as fuel. The wide variation in oil and water content of the inbound materials requires Sybill to employ a fairly flexible treatment scheme.

Direct introduction of steam heat (sparging) removes water from the inbound oils. Used oils with a high rag content (*i.e.*, an emulsified layer of water and oil) are treated by "acid shocking" in several treatment tanks. Sybill also uses propriety chemical treatments (aluminum sulfate or polymers). Oils are also polished in these tanks, which entails further heat or chemical treatment to improve product specifications, such as reducing the water content.

Processing and transfer of materials containing sulfur-bearing compounds or solvents may cause release of odors, including hazardous air pollutants, into the air. Odors can be also released by the acid shocking of heated oil/water mixtures. Heated tanks are kept at 120 degrees Fahrenheit, which can readily volatilize any VOCs present in the inbound shipment. In some instances, used oils may be attacked by anaerobic bacteria during storage, causing particularly intense and unpleasant odors that have a characteristic "rotten-egg" smell associated with H_2S and other sulfur-bearing compounds.

The majority of used oil processing takes place in Tanks 9, 11, 12 and 14. During treatment, temperatures may be raised to 180E F to 200E F. At these elevated temperatures all VOCs and a wide range of semi-volatile organic compounds (SVOCs) will evaporate. Some oils require an aggressive treatment scheme to effect desired oil-water-solids separation. This consists of heating the oil to 200F and introducing acid slowly to the oil-water mixture. After mixing and a subsequent quiescent period, further oil-water separation is possible.

According to Sybill's quality assurance/quality control (QA/QC) program, Sybill accepts only non-hazardous materials that have been pre-approved based on a representative sample of the material that has been analyzed according to SW-846 test methods. Sybill also relies on process knowledge and other information associated with the waste stream, as documented in the Generator Waste Characterization report prepared by the waste generator.

Sybill subjects each waste stream to an annual approval process, according to the QA/QC Program. Pre-approval of inbound materials relies on the Generator Waste Characterization report, plus determination of pH, ignitability, reactivity, which determine whether or not the material is a RCRA characteristic hazardous waste, as defined at 40 CFR Part 261. The material is also analyzed for the presence of certain organic semi-volatile and volatile compounds, including pesticides and herbicides, and PCBs. Finally, Sybill's procedures require F001-F005 solvent scans, which it identifies as EPA Method 8015. The presence of any solvents detected by Method 8015 is considered a basis for non-acceptance of the waste stream.

The QA/QC Program indicates that full-scale analysis is required for inbound materials when the generator makes process changes requiring a new representative sample for analysis, or when in-bound materials are received for the first time. Sybill indicates in its QA/QC Program that it uses Method 8240 for determining the concentration of VOCs, whether the waste type is process water, groundwater, waste oils, or sludge.

Sybill also states that F001-F005 solvent scans are performed on all incoming materials as part of its fingerprint analysis, which is intended to verify that each inbound shipment is in fact from a waste stream that has been pre-approved by Sybill. The QA/QC Program summarizes the chemical, physical, and visual parameters that are checked. The used oil management standards under RCRA require a rebuttable presumption to demonstrate that mixture with a listed hazardous waste has not occurred when an incoming waste stream is found to have more than 1000 ppm of total halogens. The initial presumption may be established by means of generator waste characterization, based on knowledge of the materials, or on testing. The used oil processor may rebut the presumption by testing according to an analytical method found in SW-846, to show that there are not "significant concentrations of halogenated hazardous constituents." 40 CFR §279.53. The QA/QC program does not specifically address this.

All waters and solids from oil treatment processes are sent to wastewater treatment. Here, pH adjustment and polymer addition occurs prior to delivery to the clarifier, Tank 5. Adjustments may be made to the water in Tank 5 in order to meet effluent parameters under the IU permit. From Tank 5, effluent is discharged to the municipal sewerage system under an Industrial User permit.

Previous Federal Enforcement

A RCRA Complaint was issued to Sybill on September 24, 1998, alleging three counts: (1) failure to notify as a used oil marketer; (2) operating without a hazardous waste storage permit (note: Sybill failed to rebut the presumption that the oil it received which exceeded 1000 ppm total halogens was mixed with a hazardous waste, and by the mixture rule, was hazardous); (3) failure to obtain EPA ID number for transporting hazardous waste (note: this relates to used oil shipments from Rouge Steel which exceeded the 1000 ppm total halogen limit). The Complaint was amended on August 27, 1999, and moved to reduce the penalty from \$864,773 to \$148,067.